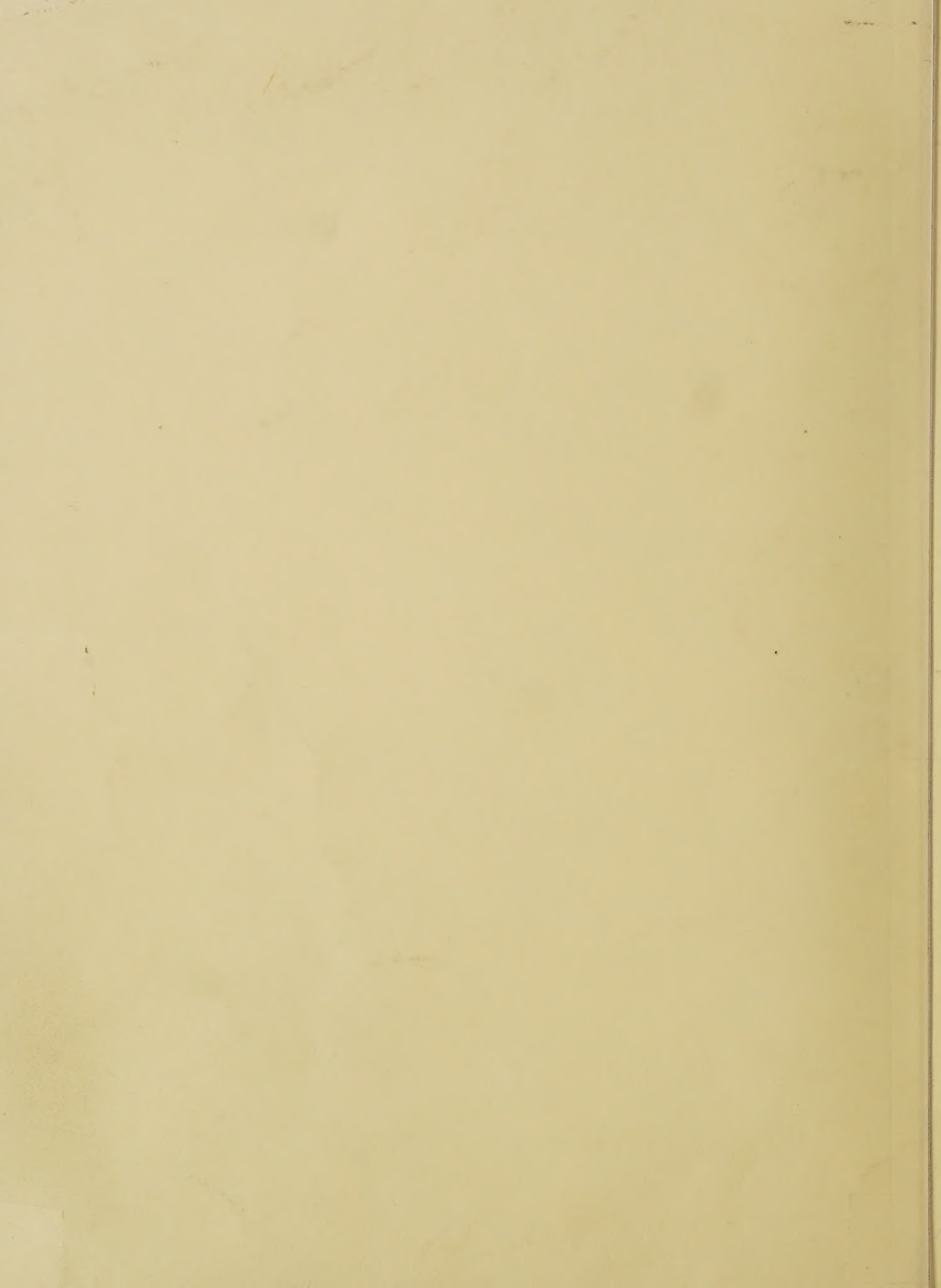


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No. 2

HARDY CLIMBING PLANTS.

THE perennial climbing and trailing plants of our gardens constitute one of their most pleasing features, and the usefulness of these plants must be regarded equally with their gracefulness and beauty. To consider these plants in their entirety and detail would require a treatise,

rather than a page or two of this journal.

At the most, the attention of the reader can only be called to their importance in garden decoration, while a few kinds are specially noted.

At this time our gardens are being lavishly enriched with new varieties of hardy climbing roses which make their appearance each year from the hands of skillful hybridizers, and in the near future we may witness effects in their employment little dreamed of a decade since. Fences, walls, arbors, arches and porches are the frame works to display these graceful plants. The Virginia Creeper, in its wild state, often shows us how it can climb up and drape the trunk of an elm and hang in festoons from its branches, or clothe, glorify and vivify even a dead tree. Robertson, in "The English Flower Garden," in noticing climbing plants says: "One of the happiest of all ways of using them is to train them freely against trees; and many good effects may be thus secured.

The trees must not of course, be crowded like those in shrub-

berries, but standing on the turf. The graceful companion, may garland the heads of some low trees; in tall ones the stem only may at first be adorned. But some vigorous climbers could, in time, ascend the tallest trees, and I know of nothing more beautiful than a veil of Clematis Montana suspended from a branch of a tall tree. * * * If any one likes to carry out the idea, a most interesting garden can be made of creepers, twiners and climbers. Not indeed a garden of trim, formal beds, as the growth of such plants could not,—in fact, should not—be

kept within set bounds but what groups and clusters of climbing, roses and honeysuckles, jasmines, clematis and ivies, might not one possess in such a garden."

Again, he says: "Hardy climbers in gardens should, for the most

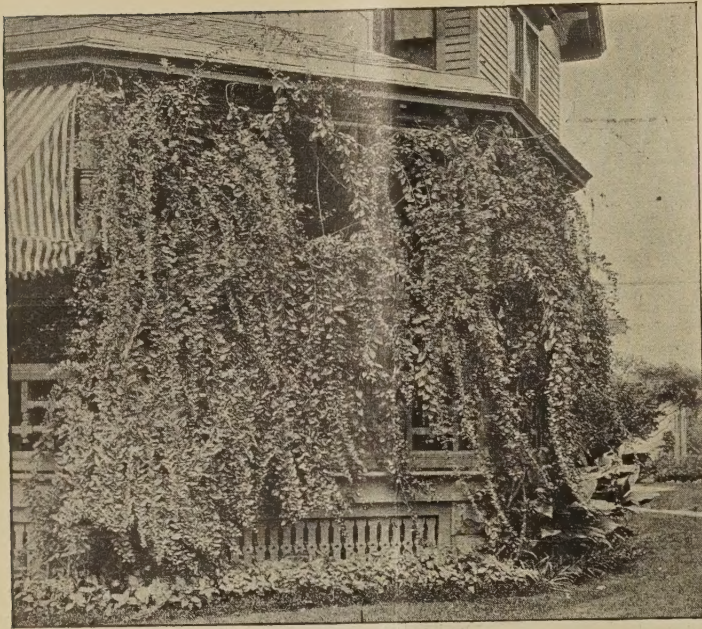
part, be what they are in their native places; trailing over trees, or shrubs, or stumps, or banks, or over such artificial supports as railings, rustic work, etc. No plant bears repression and continual pruning so badly so a vigorous climber. In that way, moreover, its beauty can rarely be well seen. The shrub that does not climb is often fit to train on walls: for example, the evergreen euonymus, pyracantha and certain evergreen barberries. The value of wild vines for covering wall-surfaces must also not be forgotten. I have seen them clambering up forest trees, spreading into huge masses of fine foliage on the ground, and sending out long arms to find the nearest trees." In regard to other features in connection with climbers he notes some as follows: "A creeper-clad trellis spanning a frequented walk is a good feature in a garden, as it gives a contrast to the open, breezy parts, and serves for growing many beautiful climbers which can only be seen at their best when rambling over



JAPAN IVY ON WALL
CLEMATIS PANICULATA AS A PORCH CLIMBER

trees, trellises or along the tops of walls. It should lead to somewhere and over a frequented walk, and should not interrupt any line of them."

The same writer notices that "Occasionally in England one sees a beautiful climbing rose rambling over a tree, and perhaps among our garden pictures nothing is more lovely than such a rose when in flower." Our northern country is too severe on roses to admit this feature, unless possibly, some of the new climbing varieties may yet be found suited to



CHINESE MATRIMONY VINE IN FRONT OF PORCH

this purpose. When in New Orleans a few years since, in a number of gardens roses were seen climbing up to the tops of tall magnolias and in full bloom with the magnolias, an impressive and beautiful sight to a northerner.

But the skillful gardener will find a thousand ways and a thousand places where the plants of this class will develop and display themselves in their greatest beauty. The climbers are suited to every style of gardening and grounds of every nature; they beautify the fence lines of the country roadside, the wild, rugged surface of rocky hillsides, the banks of streams, the poor man's cottage and the rich man's villa and carefully tended grounds. When trained upon buildings, the foliage takes away the harshness from stone and brick and wood, beautifying every surface, heightening all good architectural effects and concealing their defects and blemishes. For training on walls no other plant will equal the English Ivy for, being evergreen, it remains the same at all seasons, showing perpetual life even in the depths of winter. Unfortunately the severity of our northern regions does not admit the use of this plant to any great extent. Instead of it, however, we have what is called the Japan Ivy or Boston Ivy, *Ampelopsis Veitchii*; and this serves a grand purpose in covering walls whether of stone, brick or wood, clinging fixedly to the surface, and revealing a wealth of foliage superior, for six months in the year, to the English Ivy, in color and appearance of surface, but unfortunately it drops its leaves when the hard frosts come. The engraving on our first page, where the wall, from the base upward and all the upper part, is densely covered with this climber, show how perfectly it screens the surface. In the same engraving, the vine trained in front of the porch is *Clematis paniculata*, and the picture has been taken when the plant was in full bloom. The *clematis* in its many varieties, is one of the most desirable of climbers, being capable of use in a great variety of places. The small white flowering kinds like *paniculata*, *Flammula* and *Virginica* bloom in great profusion and the flowers are fragrant, the last two blooming about midsummer and *paniculata* in September. The larger flowered varieties continue to bloom over a longer season, in fact, all summer. *Clematis Jackmanni*, with violet purple flowers, is the large-flowered variety that has been most planted, for the reason that it has proved to be the most vigorous and free blooming. *C. Henryi* is the best of the large, white-flowering kinds, but there are numerous varieties, of different colors that are desirable, and these are gradually finding their way into our gardens. All varieties of *clematis* need some kind of support to be kept upright, otherwise they run over the ground, or rocks and bushes and fences. A wire trellis suits them admirably when trained by a porch or at the side of a walk, the leaf-stems coiling around the wires taking a firm hold. Some varieties of *clematis*, those of most continuous bloom, have been employed with much satisfaction for bedding, running on the ground or over beds of rocks. Some of the best effects with *clematis* on porches or walls may be produced by planting colored or white varieties together, allowing the stems to interlace and mingling their flowers naturally. *Clematis Jackmanni* planted with the Japan Honeysuckle, *Lonicera Halleana*, is productive of a fine effect, as both of them bloom together all through the summer.

A very excellent porch plant, that is a yet but little known or seen in our gardens, is the Chinese Matrimony vine, *Lycium Chinense*, although it has been in cultivation here for several years. It is not a climber in the sense of attaching itself to any support by twining or by tendrils, but it is, rather, a clambering plant, throwing out long, flexible shoots, but, when properly supported, makes an admirable veranda plant. The following description of it was published in *Garden and Forest* some years since and gives a very correct idea of its appearance and habits. "It produces stems ten or twelve feet long which, unless they are attached to a support, lie prostrate on the ground and are never strong enough to support themselves. When trained, however, to a post or pillar, or over an arbor, they assume an upright position and soon cover a large space. The branches develop stout lateral spur-like branchlets, and are more or less armed with stout spines. The leaves are bright green and are produced in great profusion; they are ovate, acute, an inch or two inches long, and remain fresh and bright until destroyed by severe freezing. This plant begins to flower in the late spring, and continues to produce its abundant flowers until growth is stopped by cold in the autumn. The flowers are rather larger than those of the *Matrimony Vine, and are bright purple. The fruit, however, is of great beauty. This begins to ripen in early autumn and loads the branches until winter. It is oval or oblong, nearly an inch long, and bright scarlet. As it ripens at the time the plant is covered with green leaves, the contrast between the dark green foliage and the scarlet fruit is extremely beautiful, and there are very few hardy plants which can be grown in the climate of the northern States which are more beautiful in autumn or which are more desirable when fruit-effects are desired. It is perfectly hardy, it grows with the greatest rapidity, and can be readily propagated by divisions, as it suckers freely, or seedlings can easily be raised. It is not particular about soil, and is admirably suited to cover rough banks or rocks, where it may be allowed to grow without support, or to train over fences or other structures."

The principal other hardy vines are those of the different varieties of Honeysuckle, such as the Monthly Fragrant or Dutch Honeysuckle, which is one of the best, and the Japan or Chinese Twining Honeysuckle, the Japan Golden-leaved Honeysuckle, the Yellow Trumpet and the Scarlet Trumpet, and a few other varieties; the Chinese Wistaria is one of the most beautiful of climbers, producing a wealth of bloom in long drooping clusters of bluish flowers, the last of spring and early summer, and often blooming again less freely in autumn. The white variety of Chinese Wistaria is as yet but little seen in our gardens, but is remarkably handsome and worthy of far more attention than it has yet received.

The Climbing Trumpet Vine, *Tecoma radicans*, or as it is more commonly called in the catalogues, *Bignonia radicans*, is a very beautiful hardy climber, bearing great quantities of large trumpet-shaped, scarlet flowers in August.

The Birthwort or Dutchman's Pipe, *Aristolochia Siphon*, is a vigorous native plant with large leaves, and bearing flowers of a very curious shape, somewhat in pipe form. It is very robust and capable of climbing to the tops of the highest trees.



SPRAY OF HALL'S HONEYSUCKLE

*Meaning the Old Matrimony Vine common in our gardens fifty years ago.

The Climbing Bittersweet, *Celastrus scandens*, is another vigorous, native climber with handsome foliage, inconspicuous yellowish green flowers and a profusion of orange colored berries. Another of our native climbers is the Moonseed, *Menispermum Canadense*. It is a twining plant, bearing small yellow flowers and black berries.

The Silk Vine, *Periploca Graeca*, a European plant, and *Akebia quinata* and *Actinidia polygama*, both from Japan, are useful, hardy climbers.

In dismissing this subject, at present, we have no doubt that our readers will agree with us, that far less use is made of these plants in our gardens than their merits will allow, or that the best effects in our grounds require.

* *

INTENSIVE CULTURE IN THE GARDEN.

IN my market garden I have practiced some methods of intensive cultivation, a description of which may interest your readers. Every market gardener should have an experiment plat in connection with the market garden, that he may first experiment with new methods of culture, or test new varieties of fruits and vegetables, before he uses them extensively. Such an experiment plat has proved very valuable to me, and one of the good things which is the result of several years of experimenting on a small plat, is my new method of celery culture. I have before described this method in articles written for publication, but I think it will be new to most of the readers of this journal, and as I believe it to be the latest and best plan by which a good article can be produced at a minimum cost, thus securing the largest profit to the grower, I will describe it briefly as follows:

I first make the soil very rich, using 100 tons or more stable manure per acre; then, when the soil is pulverized very fine, I set early in May, plants of the White Plume and Golden Self-blanching varieties in rows, as follows: two rows are set one foot apart, with the plants six inches apart in the row, then I leave a space of eighteen inches and set two more rows in the same way, thus making alternate spaces between the rows of celery twelve and eighteen inches wide. When cultivating the celery, I have sometimes cultivated the eighteen inch space with a horse and Planet Jr. small tooth cultivator narrowed to twelve inches, and then finished the work with hand cultivators doing the most of it with the wheel-hoe. When the plants were twelve to eighteen inches high, I set boards along side of the double rows, so that the two rows of celery which were twelve inches apart were between the boards. The boards were kept well apart, and held in place by driving stakes on both sides. The eighteen inch, or vacant space was mulched with manure or other suitable material at hand, then water was applied over the mulch with the hose. The celery soon grew above the boards—which were from twelve to sixteen inches wide—the boards were then crowded close together to further darken the enclosed space between, which completed the blanching in a few days. The celery grew more than two feet high, and because of the rapid growth was very crisp and tender. From one plot of about one-tenth of an acre, I received nearly \$200 for the celery which was sold in my village, at an average price of three cents per bunch.

Another method of intensive culture which has made some money for

me, is to plow a plot of ground in the fall, and manure it heavily during the winter, then harrow it in the spring, as soon as I can work the ground, and with a one-horse corn planter, plant the earliest varieties of peas in rows two and one-half feet apart. I cultivate the peas with a horse and cultivator until some time in May, when I plant early corn with the corn planter between each alternate row of peas, leaving alternate rows vacant, from which to pick the peas. The peas are

marketed the last of June, when the vines are removed from the ground. By this time the corn will have made quite a large growth, and the space between the rows can be cultivated and set to celery, cabbages, turnips, or potted strawberry plants; or Hubbard squash can be planted in the corn rows the last of May, and the vines will occupy the ground between the rows of corn after the peas have been removed. Another profitable combination of crops, is to grow early bunch onions from sets, and follow them with a second crop of celery, cabbages or cauliflowers.

What to plant and how to plant depend on one's soil and market. I realize that if I describe methods of culture which are a success under certain conditions, others will try them where the conditions are not the same and fail to get good results.

The amateur in gardening should be satisfied to go slow, and not plant extensively until he has gained experience by planting small plats. In market gardening as in other occupations, it is the trained workman who is a "hustler" that "gets there."

W. H. JENKINS.

Delaware Co., N. Y.

* *

LILIES OF THE VALLEY.

THE girl of fastidious tastes, yet moderate means frequently finds it difficult to plan out the fresh supplies of pretty luxuries that seem so much like necessities.

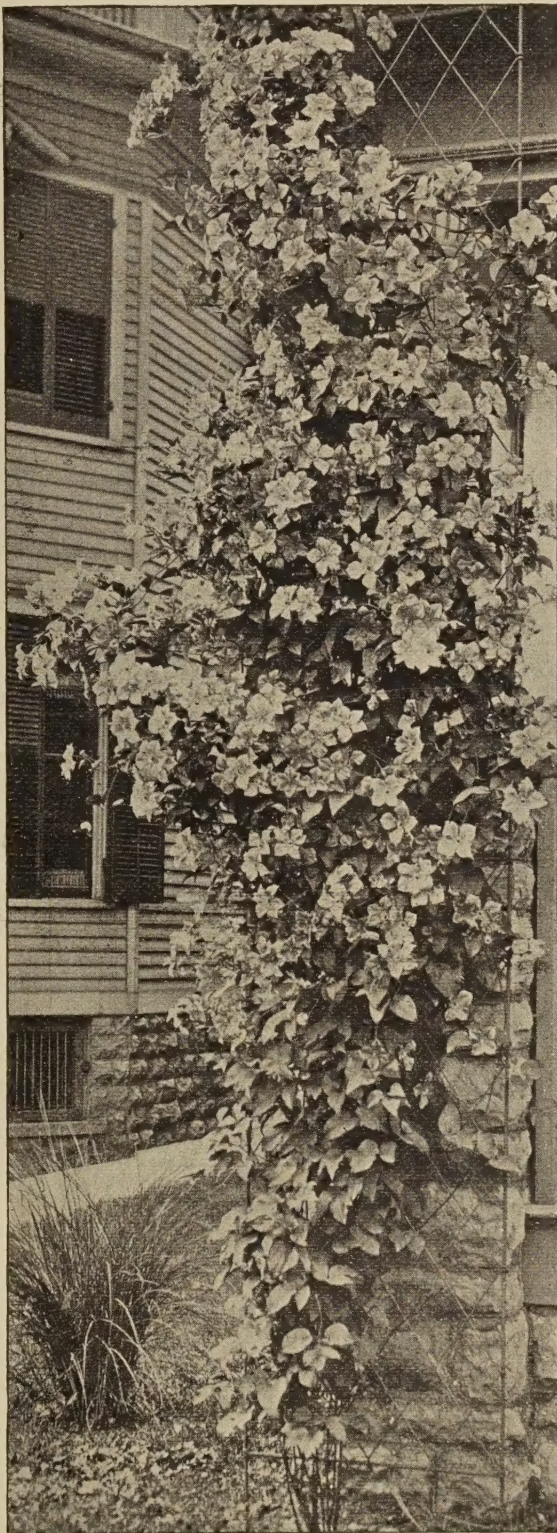
To do without violets and valley lilies in their season is a real privation, and more than one bright girl has found it a fascinating economy to grow these favorite flowers at home. The "home-grown" blossom, when she gives her mind to it, compares as favorably with the commercial flower as "hand-made" lace and embroidery do with the product of machines.

Although they are the perfection of simplicity and sweetness, lilies of the valley are yet quite expensive, especially the very early ones. When a girl has grown her own lilies for several seasons she will wonder why in the world they do cost so much, for they are among the easiest of all flowers to grow either in or out of doors.

The first "pips" or crowns for "forcing" the early flowers, and for outdoor planting will need to be purchased in late fall or early winter, but from these good clumps can be established in the yard, so that no subsequent outlay, even for the forcing pips, is necessary. If her city home has not even the tiniest bit of a yard, why then madchen must purchase

fresh roots for forcing every year, but even this is much less expensive than purchasing the flowers, unless she is a careless minx, forgetful of the few attentions necessary to bring the crowns into flower.

It is the general impression that lilies of the valley thrive best in damp, shaded places, but they certainly grow and bloom exceedingly well, also, in places of quite different character. For a long time we thought it hardly worth while to plant them in our dry, sunny upland



CLEMATIS JACKMANNI
ON TRELLIS BESIDE A WALL

garden, but it seemed heartless to throw away roots that had bloomed so bravely in pots during bleak February and March. So we planted them in rich little pockets of soil among the shrubbery, more from a wish to make their declining days pleasant than with the hope that they would make such a supposedly unfavorable spot their permanent abode.

But the plucky little plants made a slight growth that year, and the next spring took on a rich dark color. Before autumn they had greatly enlarged their borders, and the next spring, every clump furnished a good corsage bouquet of sweet, white sprays.

A few years later we excommunicated most of the shrubs that sheltered the lilies, but the plants did not seem to mind it. They even fought the crab-grass for dominion, and since then, have spread into thriving little colonies, that are always prompt with a plentiful tribute of waxen bells in spring.

Thus it came about that we began to draw upon our own yard every winter for the pips used in forcing early lilies, lifting and potting them a few weeks before the flowers were wanted. If the ground is frozen at this time, we have the clumps chopped out in blocks deep enough to hold their long roots well embedded in soil. Each block is placed in a pot or flat, just large enough to hold it within an inch or two of rich soil on all sides. The roots are watered thoroughly, and placed first in

by the bract and the perianth, both of which at first are small, but, as the seed matures, become broad membranous cups or wings. The *Atriplex* has the bract surrounding the pistillate flower only, while the *Sarcobatus* has no bracts, but its perianth is adherent, and becomes a broad membranous wing. *Sarcobatus* has linear, fleshy, green leaves, and smooth, whitish stems. *Atriplex canescens* has oblong or oblanceolate leaves.

Greasewood is eaten by sheep, cattle and antelope, and the United States Government is now experimenting with one variety at the Experiment farm, at Laramie, Wyoming, with a view to introducing it as a valuable forage plant, especially suited to soils where nothing else will grow. The variety selected for trial is *Atriplex confertifolia*.

Strangely enough, greasewood has no grease about it at all, and the plant is anything but greasy in appearance. But when placed in a fire and burned, the fumes arising from it smell very much like burning tallow, hence the name.

These shrubs grow from two to six feet high, probably seldom exceeding six feet. They are not nearly so common or abundant as sage brush, being as before stated, restricted entirely to alkali soils. The engravings in connection with this article are from photographs taken from life by the writer, and are faithful representations of the plants.

Douglass, Wyo.

L. STEERE.



Photographed near Douglas, Wyoming
September 13, 1898

ATRIPLEX CANESCENS
ABOUT 18 INCHES HIGH

a cool room, then in a moderately warm one, with plenty of water and full sunshine for constant company. In three or four weeks from the time they become occupants of sunny window sills, their classical sprays should be ready for wearing.

L. GREENLEE.

* *

GREASE WOOD.

AS stated in a previous article, on Sage Brush, I promised the readers of VICKS MAGAZINE, some account of the shrubs which, in the arid regions of our country, take the place of Sage Brush where that shrub will not grow because of alkali present in the soil.

The shrubby plants of two genera are designated as Greasewood. These are *Sarcobatus* and *Atriplex*. Both belong to the order Chenopodiaceae. The plant most commonly called greasewood is *Sarcobatus vermiculatus*. Three species of *Atriplex* also go by the same common name of greasewood. These are *A. Nuttallii*, *A. confertifolia* and *A. canescens*. All these, except *Atriplex confertifolia* are much greener in foliage than sage brush. Where any considerable quantity of alkali impregnates the soil, vegetation of all kinds disappear, with the exception of these shrubs.

Perhaps the most distinguishing feature of all of them, is that formed

AS TO ASTERS—AN EXPERIENCE.

LAST year, when I became the happy recipient of five of Vick's Pink Branching asters, my hopes rose high. The White Branching asters I had known and grown; and if the pink proved only half as fine—why then—there would surely be something worth the seeing in my garden. I gave them all the care I knew how to give, and often when I could see nothing more to do "just sat and watched them grow," after the manner of flower lovers the world over.

Within a week or two, my smiles were changed to sighs, for the cut-worms took two of my pets in a single night. Three remained to me the summer through, and the first week in September found them fine, symmetrical plants, well branched and crowned with buds. My friends watched with me for the first hint of color; but the week of hot winds, which Nebraskans will remember, swept down upon us then, and took my garden, root and branch. Even the leaves were dried up on the trees, and fell as though the frost had touched them. This was not the case where water could be applied in unlimited quantities. I had only limited facilities for watering at that time, and so my flowers, annuals, bedding and herbaceous plants "went the way of all grass." From a garden full of treasures, all that remained to me the following spring were three peonies and my double white pyrethrum, Mont Blanc.

Other varieties of aster, planted the same season, grew to be a foot high, perhaps, put out tiny side shoots, and then—stopped growing. The first wind that chanced that way toppled them over, and by the first of September, the only asters left growing in my garden, were Vick's white and pink Branching, which departed this life as stated. I held a post-mortem examination over every uprooted plant. It might have been the work of moles; there were no indications of insects at the roots of any of them; what few rootlets were left were short and fine, and branched in a circle close under the surface of the ground. The only deductions my note book records were "asters not planted early enough—soil too light." Whether this was the true diagnosis of the case or not, let others determine.

This year I began earlier, with several different kinds of asters, well grown and stocky by transplanting time. Tried many different locations and soils; potted about and experimented to my heart's content. Vick's White Branching aster transplanted earliest, was given the best drained place and lightest soil. After plants were well established they

"little preacher" of persistent endeavor, that it has been the summer through.

No insect troubled the white branching asters, though each plant was gone over every morning—no insecticides were used—and no foe put in an appearance, save a few green worms; these were soon dispatched, and no more came.

A week after the first transplanting—in heavier soil and a more moist situation—Vick's red Branching aster and some mixed varieties were placed—the first mentioned, far the finest from the start. There was no blighting, no discoloration, no drawing to one side, in either of the branching varieties. I thinned them to six inches apart, (too close I know—but I let them grow so) gave them water as I thought needed, and they rewarded me with a good return of bloom. Each blossom borne upon a long, graceful stem, has a noticeable individuality of its own, which is its greatest charm. They were fine, tall, shapely plants. Not so wonderfully floriferous as the white, but, with their different characteristics, quite worthy a place beside their elder sisters.



*Photographed near Douglas, Wyoming
September 14, 1898*

SARCOBATUS VERMICULATUS
ABOUT THREE FEET HIGH

were enriched with liquid barnyard manure. Result: an immense success. That spot yielded more bloom to the square inch than any other equal space in the garden. The blooms were perfect in every respect. Not one blighted, nor puckered, nor discolored among them; and how those plants, fine and vigorous as they were, could yield such a quantity of magnificent bloom was a source of wonder to beholders. This group of asters was slightly shaded from all but the morning sun until they were, perhaps, a foot high; after that they took all that came, sun and shower alike, and once were laid prostrate, and even soil washed over them in part by a terrible storm; but straightened, staked, washed, carefully firmed in the ground, and shaded for a day or two, they were even finer after it all than before.

One belated plant, whose tiny struggles I was interested to observe, grew to be just five inches high, put out five branches, and put out five perfect white blooms; not the largest of course, but well worth growing. The plant was taken up after the first bloom opened and adorns my window now, November 3d, a small, but perfect specimen of its kind. I will not pretend to say how many times it has done duty as a centerpiece on parlor and dining table, but it is pretty yet, and is still the

The mixed sorts in the same bed with the others, did fairly well. There was no tendency this year to the trouble which bereft me of asters last year. This I endeavored to guard against by adding a little soil to the bed from time to time. Against black beetles and green worms in this bed, I was forced to wage continuous battle. There was some trace of the disease noted by H. C. O., in September MAGAZINE, and others—leaves turning pale, growing in a bunch, and blossoms green on one side and drawn down—I pulled up every plant showing this unhealthy green foliage as soon as noticed—examining it carefully, but found no trace of insects at the roots.

Two conditions always accompanied this ailment in my beds. The plants were far too much crowded and shaded, and the soil was heavy with cow manure. Also, if the buds were drawn to one side, I could recall that at some time during the critical budding period, the plants had been allowed to become too dry, and thorough and repeated waterings and drenchings of the plants, if noticed soon enough, tended, in some measure, to obviate the ill.

In growing asters in Nebraska, experience seems to have taught me that the plants should be put out early, though protection be needed from

chill afterward. The plants must make good root growth before the warm days come.

It is well to transplant them once if strong and stocky, but if they can not be so grown, better to plant seed where they are to bloom. Asters, too, it seems to me, do not need a soil so very rich at first; better give a fairly good soil, and enrich with liquid fertilizers later.

Some plants in my mixed bed seemed at a stand still. Examining I found the fertilizer not quite assimilated just there. I took the hint, drew the aggressive material to a respectful distance, filled in with loam, added a little sand, and the laggards soon fell into line.

The first week of September is the fateful time for gardens in our latitude. This year I fortified against the high winds that never have failed us at this season, in a ten years' acquaintance with the State, by keeping the garden drenched for a week before hand. Then when the hot winds came, when even to enter the garden in the daytime was to do damage, we instituted a strategic movement by watering our treasures at night.

Many and many the moonlight hour that I have toiled to checkmate the dread foe, drought; and this year I succeeded finely. The garden was far brighter in its autumn dress than in its summer bloom, and the frosts very many and keen, snow even had fallen, before the last fair ranks of flowers laid their faces in the dust. To the last, none lingered longer, nor did any kind bear itself more bravely than did the bonnie asters—"May their tribe increase." DART FAIRTHORNE.

* * *

DEPTH FOR PLANTING LILY BULBS.

Some inquiry being made about the depth of planting the different kinds of lily bulbs, an examination, with the results stated below, has been made of the teachings of different authorities. Many able and practical writers pass over this feature of lily culture in a very general way, and without any precise instructions discriminating in regard to the different species. Such writers presumably suppose that much is left to the judgment of the planter in relation to the peculiar situation, the soil, the nature of the climate, and any other conditions which might modify the practice in any given case. As Mr. Orpet remarks, in a quotation given below, horticultural teachings are "necessarily empirical," and any given rule of garden practice must be considered rather as a general guide, than as a law to be observed to the letter. The fact is, that nature operates under many varying conditions, and the vitality of both plants and animals asserts itself in apparent, if not actual disregard of the theories of doctors of medicine, and doctors of horticulture, and the results that should never occur, according to our preconceived ideas, are those that really come to pass. The wise gardener or horticulturist, as well as the wise doctor, will make his statements with very much modesty, with many provisos, and in a tentative, rather than in a positive manner. With these preparatory remarks, let us now see what has been published by some of the best authorities on the subject now in question.

In "Favorite Flowers of Garden and Greenhouse," cultural directions are given by William Watson, assistant curator, Royal Gardens, Kew:

An open, well-drained soil is the most suitable for growing lilies, as, given good drainage, additions of peat, loam, etc., will make it fit for any species. The bulbs should be planted to a depth of about six inches, a hole of greater depth having been dug previously and partly filled with specially suitable soil.

Nicholson, in the "Dictionary of Gardening," in some general remarks about the cultivation of lilies, says: "From four to six inches is a suitable depth for planting."

Bailey in "Garden Making," says:

L. auratum should be set ten to twelve inches deep; the others from four to six.

Of *L. candidum* he says: "Set the bulbs from four to six inches deep."

Buist, in "American Flower Garden Directory," and referring to the hardy species, says:

They should be planted from three to five inches deep, according to the size of the bulb.

Le Bon Jardinier, mentions the depth for planting *L. candidum* as fourteen centimetres, equivalent to five and one-half inches. In regard to the depth of planting other species no mention is made.

In an article in *Garden and Forest*, November 11, 1891, E. O. Orpet, of South Lancaster, Mass. writes:

The depth to plant lilies must depend largely upon several details which it is well to consider here; but, at the same time, it must be admitted that there never was a truer word spoken than that horticulture is necessarily empirical. Experience does teach, and it is not all gained in a day, and seldom is lily culture fully mastered. I have noticed that some varieties with small bulbs, will succeed with shallow planting, as for example, *L. Wallacei*, *L. callosum*, *L. elegans*, and, emphatically, *L. Philadelphicum*, which always grows near the surface when found wild, while others with small bulbs, as, for example, *L. Columbianum* and *L. tenuifolium*, need deep planting. * * * *L. Columbianum* comes from the Pacific coast, and succeeds but poorly here in the east. I have only flowered it when planted ten to twelve inches deep, and the same remarks apply to *L. Washingtonianum* and *L. Humboldtii*. * * * *L. Martagon* is another difficult lily to

grow, but I believe it needs stony soil, preferably elevated, as on rock-work, to make it comfortable. * * * There are still three native lilies that are worth growing in the garden, as they improve so rapidly when given a moist soil, and are very ornamental—*L. superbum*, and *L. pardalium*, the latter a western lily, but perfectly hardy here. As to planting, one cannot do wrong with those noted since they grow well here, if they are planted eight or ten inches deep even where the soil is heavy, for this will save the young shoots from injury from frost in the spring; but with those that do not succeed well in all places, it is best to try them in all positions available, being assured that when success is attained it will be worth recording.

In 1891, Carl Purdy, a botanical collector wrote about California lilies in the *California Florist*. From this article is taken the following extract:

The bulb of *L. Humboldtii* is often a pound in weight and very compact. * * * In cultivation this lily will thrive in clay loam or sandy loam. In hot sections it does best planted in the shade. It needs to be planted six inches to a foot deep.

C. L. Allen, in 1888, wrote in *Garden and Forest*, on "A Selection of Lilies." Of *L. auratum*, he says:

Choose the smallest bulbs, those that are heavy and firm, plant deeply, say eight inches, in the driest part of the border, in partial shade, and the bulbs will last a number of years.

In the same communication he says:

L. longiflorum, the trumpet-shaped lily, is conspicuous among Easter flowers, as it is well adapted for forcing. The popular Bermuda lily belongs to this species. It thrives well in an open border, but it is folly to plant it unless thoroughly protected against frost.

The same authority, in his excellent work entitled "Bulbs and Tuberous Rooted Plants," discusses the subject of lily culture in a very practical and discriminating manner. He shows that most of the species which are called hardy, excepting those that are indigenous here, are not truly hardy, and by acting on this supposition that they are so, and not affording them winter protection, is the cause frequently of the loss of the bulbs. He says:

It is but proper to remark, at this time, that there is no climate so severe on any class of bulbs, such as are usually considered hardy, and left in the open border during winter, as that of the Middle Atlantic States. This is practically applicable to the Atlantic coast, from Massachusetts to Virginia, where the thermometer indicates forty degrees of frost when there is not a particle of snow on the ground for the protection of vegetation. In these localities the frost penetrates the earth to a great depth, and is soon thawed out. These constant changes from freezing to thawing, cause the earth to contract and expand to such a degree as to frequently tear the bulbs in pieces. We have known whole fields destroyed in this manner. This shows the mechanical effect of freezing.

He then shows that the bulbs of *Tenuifolium* are hardy in Siberia, their native home, where they are "largely employed as an article of food," because there the ground is covered with snow so deeply before it freezes, "that frost rarely, if ever, enters the ground at all."

He says the same is true of the *Martagon* lily "used by the Cossacks as a vegetable." "With them it is perfectly hardy; but with us in a much milder climate, it will rarely survive but a single season, unless protected, but with that precaution it grows with much more vigor here than in its native home. In England, all the Turk's Cap lilies grow to a size unknown where they are indigenous. This because in England, the frost never reaches them, and the other conditions of growth are more favorable." Noticing a number of other species he writes of them in a similar interesting manner, which, however, for lack of space cannot be here reproduced. He states the case of a neighbor who had a fancy for *Lilium speciosum*, (*lancifolium*), and planted a bed of them which he kept covered in summer with grass cut from the lawn, which "grew moderately well." In autumn, "he covered the bed to a depth of six inches with coarse manure, extending over the grass to double the size of the bed. The following season there was an enormous growth; some of the plants were nearly six feet high, their stems being an inch or more in diameter at the base, bearing from twenty to thirty flowers each, of a size and substance rarely seen."

In regard to the winter protection of a bed of lilies, Mr. Allen says:

The best and most natural mulching we have ever used is a covering, say six inches in depth, of newly fallen leaves, kept in place by some brush or a few pieces of board. Any coarse hay is also an excellent protection; cornstalks answer a very good purpose; in short, whatever material is most convenient that will accomplish the purpose, is best.

The main points for preparing a bed for lilies, as given by Mr. Allen, are these: drainage, so that no water shall lie about the bulbs in winter—digging the soil about two feet in depth, with a layer of about six inches of well rotted manure at the bottom—that from the cow stable being preferable—a covering of soil over the bulbs of some six or eight inches in thickness. A bed so prepared and planted "will require the same mulching during winter as though the bulbs were planted in the ordinary border. The same author then states the necessity of protecting the roots of lilies from heat in summer, and advises a mulch of "fresh cut grass" for the purpose. The shade of shrubbery or trees is also advised when their roots will not run into the bulb bed and take away the nutriment properly belonging to the lilies—otherwise, shade with "a light lattice roofing, say six feet above the plants," or with a piece of light

canvas stretched over a frame. In regard to soils, this writer asks the question: "But can all the species be successfully grown in the same soil? We answer, yes, as nearly as those of any other genus of plants with which we are acquainted. Make heavy soil rich, and provide good drainage, and you will get an abundance of beautiful lilies. Make a light soil rich, and carefully protect from the burning sun—the soil by a proper mulch, and the flowers by a suitable screen—and the same results will follow."

All these quotations and references have a bearing on the question of the depth to plant the bulbs—for the depth of planting must be considered with reference to the protection of the bulbs from the frosts of winter and the heat of summer, in a climate like ours subject to both extremes.

Ellwanger, in "The Garden's Story," says of the lily:

While many of the genus are hardy, and very many are natives of cold climates or high elevations, winter protection to nearly all species is advisable with us. If the ground remained covered with snow the entire winter, the bulbs would not suffer. It is the alternate and frequent changes from freezing to thawing which contract and heave the ground that causes the trouble, the bulbs themselves contracting and expanding with the changes of temperature.

This he says, also: "With us the lily is even more susceptible to drought than to frost, and failure is oftener the result of shallow planting and poor soil, than owing to the rigors of our winter climate."

Mr. Thomas B. Gilmore, a practical lily grower of many years experience, in connection with the establishment of James Vicks Sons, states that his long experience has shown that it is best to cover the bulbs of such species as *Tigrinum*, *Longiflorum*, *Harrisii*, *Candidum* and *Speciosum*, or *Lancifolium*, about eight inches deep; even the little *Tenuifolium* does best at this depth, and in heavy loam with a large proportion of clay. *Chalcedonicum*, *Humboldtii*, *Excelsum* and *Washingtonianum* and *Auratum* he sets three or four inches deeper, and the last named, particularly, needs a mulch in summer to protect from heat. All are better for a thick covering of mulch in winter.

Mr. Gilmore has raised lilies successfully in heavy and quite light, sandy soils, but in either case the soil requires to be rich. The effect of shallow planting he states, is quickly apparent in summer, as the growth of the plant is checked in hot weather, the foliage fails and yellows, and quickly ripens, and the bulbs when taken up are found to be small. This experience relates to this locality; somewhere else, and with different conditions, a different practice may be proper.

And this is the lesson to be learned in regard to lily culture: consult all local conditions and compare them with those of other lily growers, and then intelligently adopt a practice that is confirmed by successful results in the special locality.

* *

CHOICE MID-SEASON PEARS.

The Bartlett is the most popular of early autumn pears, for the reason that the tree is a good grower and good and early bearer, the fruit is large and handsome when well grown, and of excellent quality and flavor. A fine dessert fruit, and in great demand for canning. It appears to do well in nearly all parts of the country with the exceptions of Western Wisconsin, Minnesota, Northern Iowa, North and South Dakota, Montana and Wyoming, a region with a winter temperature too low for the tree to bear successfully, and, also, Texas, excepting the extreme eastern and northern portions, probably on account of aridity and heat.

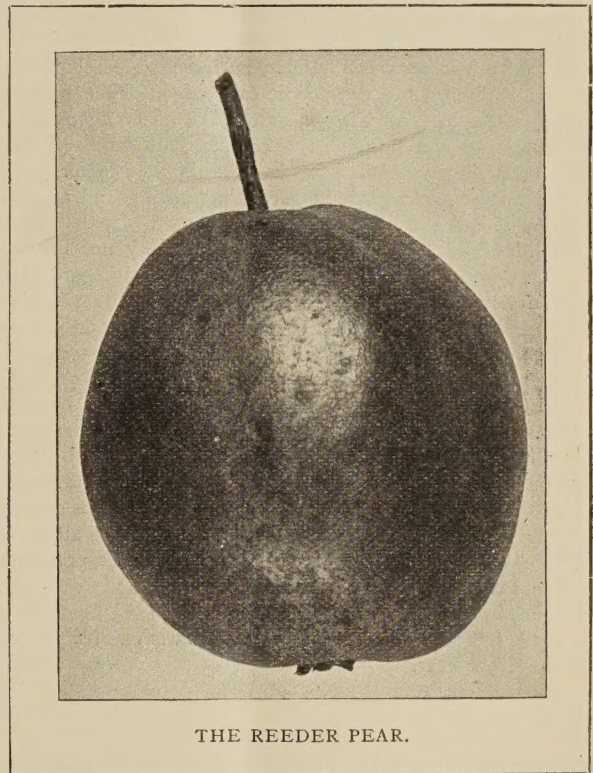
The Seckel is a favorite throughout the same region, but not raised in as large quantities. The tree is a slow grower but sturdy, stocky and symmetrical in form, but not assuming large proportions; very healthy, free from blight, and a great bearer. Fruit small, but of the highest quality, so much so that it is considered the standard of excellence; it is fine grained, juicy, sweet and with a highly perfumed flavor. Its very high flavor is an objection to some tastes. It ranks first as a dessert pear for mid-autumn.

The Worden-Seckel, a seedling of the Seckel, raised by Mr. Worden of Oswego, the originator of the Worden grape, is somewhat larger in size and more highly colored than the Seckel, and said to be its equal in quality, and ripens a little later. Tree a good grower and an early and great bearer. This variety is not yet generally propagated.

The Reeder pear is a variety not yet widely disseminated, though sent out some years since. The tree is a good grower and heavy bearer; fruit small, a very little larger than the Seckel, roundish-ovate or obovate in form, greenish yellow, netted with russet; flesh melting, buttery, juicy, sweet and perfumed. Its high flavor is but little less than that of the Seckel, to which it is quite similar in this respect. When calling at the nursery establishment of Ellwanger & Barry in this city in the early part of October, this pear was found to be in its prime, and a pear lover could fully satisfy himself with this delicious variety. The season of ripening being somewhat later than the Seckel, it will be found an

admirable sort to succeed it in the family garden. It is a very regular and abundant bearer. The American Pomological Society, in its catalogue of fruits, marking quality in its scale of one to ten, gives to Seckel ten, the highest number, and Reeder stands eight to nine. It requires nice discriminative taste to make the grade.

Mr. George Ellwanger, of the establishment above named, considers the Bosc a pear of the highest excellence. This is also a mid-autumn variety. The tree is only a moderate grower. A note in a late number of the *Rural New Yorker*, says: "One reason why the Bosc pear is not more largely grown, is the difficulty in propagating the stock. This tree has such a cranky, obstinate way of growing that it is very hard indeed to obtain good specimens. It is a pity, too, because this pear carries really the finest flesh of any fruit that grows on a tree." This is saying all that is possible to say for the quality, but the observation is no doubt



THE REEDER PEAR.

correct; it corroborates the opinion expressed by Mr. Ellwanger, and agrees with the standard accorded it by the American Pomological Society, which ranks it ten in quality. The fruit is large, distinct pyriform, skin smooth, and deep yellow in color when ripe, and with patches of russet; flesh juicy, buttery, sweet, perfumed and excellent. Tree a good regular bearer. It does not succeed on the quince. A very desirable family variety. The best formed trees of it can be obtained by planting a free upright growing variety, like Buffam on sandy soils or sandy loam, and Louise Bonne on heavier soils, and top grafting them two or three years after planting.

* *

ECCREMOCARPUS SCABER.

A writer in the *Journal of Horticulture*, says of this plant: Few outdoor climbing plants have a longer flowering period than this old favorite. It is a herbaceous perennial, but can be used as an annual with almost equal success, its quick growing nature making it particularly adaptable for covering walls, bushes, trellises, or other things in a short space of time. By sowing seeds in February, plants two or three feet in height can be had for planting out in May, and, from that time until a sharp frost comes in autumn, it is covered with racemes, four to six inches long, of scarlet and yellow flowers, each flower one inch in length.

* *

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When writing to us for premium list, sample copies, etc., please send the name and address of a few friends along with your order. We will deem it a kindness. The only condition we wish to make is that they be names of people interested in flowers and a good garden.

VICKS ILLUSTRATED
MONTHLY... MAGAZINE

ROCHESTER, N. Y., DECEMBER, 1898

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CHARLES W. SEELYE, Editor.

ELIAS A. LONG, Associate.

Formerly conductor of *Popular Gardening*

Publishers are invited to use any articles contained in this number, if proper credit is given.

Retrospect—Prospect.

With the present month this journal completes its 21st year. In introducing the first number of the MAGAZINE, the founder, the late James Vick, expressed the hope that "as a teacher of the people and a guide to the millions, it may prove without a rival." The hope thus expressed has been an animating force in the conduct of the publication through the many years; whether it has fulfilled its intended mission as a horticultural teacher and guide, the people can judge. Though its founder passed away a few years after it was started, the general purposes of its establishment, and the principles of conduct with which it was first endowed have since prevailed in its editorial management. It has sought to be a trustworthy guide in gardening matters, and as such it is believed that it has a well established reputation. In that same first number of the MAGAZINE, its founder said: "It may not be amiss to state that our desire is to create a taste for the beautiful in gardening, and a true love of flowers among the people. God has scattered beauty all over the world with a generous hand. Flowers abound on the mountain top, in the shady dell by the river's bank and even in the ugly swamp. Flowers are as free as air, and about as necessary to a happy life."

The taste for gardening in its various branches has been greatly extended among our people during this last quarter of the nineteenth century, and many beautiful gardens and tasteful yards may be found in every community; and this gardening taste is now growing and deepening with greater intensity than ever before. In its pursuit is experienced a pure pleasure which is also reflected in the happiness of all associates. May the love of gardening, with all its refining tendencies, prevail among our people equally with the love of liberty, fraternity and humanity.

To this end, in connection with this MAGAZINE, shall be devoted our energies in the future. To all of our readers we wish a Merry Christmas and a Happy New Year.

* *

Obituary.

PARSONS.—One of the old and well-known nurserymen of this country departed this life on the 1st of last November, when Robert B. Parsons was run over by a train at Newton Station, Long Island. Mr. Parsons was nearly seventy-eight years old at the time he met his death. About the year 1840, Mr. Samuel Parsons, father of the subject of this notice, engaged in the nursery business at Flushing, L. I., forming a company with his sons Robert and Samuel. This nursery became a great and famous establishment, raising and disposing of the choicest varieties of fruit and ornamental trees, and aiding greatly the impetus a half-century ago, for tree planting and fruit growing and especially the culture of the finer kinds of ornamental trees and shrubs. The beautiful trees which line the streets of Flushing are to a great extent due to their planting by the Parsons' firm. This firm was dissolved in 1872; the brother Samuel and his sons then established the Kissena Nurseries, and Robert continued at the old stand until 1875, when he retired from business.

LIVINGSTON.—A. W. Livingston, of Columbus, Ohio, died on the 10th of November last, aged seventy-six years. Mr. Livingston many years since, became prominent for his attentions in cross-breeding and improvement of the tomato. He originated a considerable number of fine varieties of this vegetable which were from time to time placed in the market, where they always took a leading place, and in 1893 he wrote and issued a treatise entitled "Livingston on the Tomato," in which he embodied his ideas and experience of tomato culture.

* *

Cabbage Worms.

Bulletin No. 144 of the New York Experiment Station, Geneva, is of special interest to cabbage growers. "How to prevent the Ravages of Cabbage Worms" has been a problem difficult of solution, owing largely to the habit of growth and the smoothness of the leaf surfaces of plants of the cabbage family, which prevent uniform distribution and perfect adhesion of the usual insecticidal preparations. After many tests

the Station has found in resin-lime mixture and Paris green a remedy which distributes the poison uniformly and in minute quantities, which will "stay where it is put," is very effective against the worms and is not dangerous to use if applied with care and judgment. Two treatments only are necessary to protect late cabbage and cauliflower, and these can be applied at an expense of about \$2 per acre. This remedy is effective not only against the ordinary cabbage worms but also against the cabbage loopers, which have been the more serious pest during the past few years.

The bulletin gives brief notes upon the life history, and habits of these two insects, and full directions for the preparation and use of the resin-lime mixture, with details of comparative tests of this and other insecticides, and reasons why it is superior to other combinations. Give your address upon a postal card and the Station will send a copy of the Bulletin, free.

* *

Horticultural Meeting.

The annual meeting of the Western New York Horticultural Society, of which William C. Barry is the president, will be held in this city, commencing Wednesday, January 25th, 1899. Important questions of interest will be brought forward for consideration, and all citizens of Western New York interested in the progress of horticulture, in any way, should be present. The payment of one dollar constitutes a person a member of this society, and entitles him to a copy of its published proceedings, and every wide-awake fruit grower or farmer who raises more or less fruit, and every tree planter and flower grower who desires to make beautiful the homes of this region, should join this society and thus supply himself with a copy of the full report, even if circumstances forbid his personal attendance. Some of the best horticultural talent in the country will be represented in the deliberations and discussions at this meeting.

The secretary of the Society is Mr. John Hall, 409 Wilder Building, Rochester, N. Y., who upon application, will supply any special information desired in reference to the coming meeting, or send receipts of membership to any who may enclose one dollar in a letter to him for that purpose.

* *

Southern Truck Farming.

Fifty years ago there was in the South almost nothing of truck growing, the agricultural pursuit which in the past twenty years has assumed vast proportions, and which is increasing with every year. In the early period one of the great drawbacks upon the development of the industry was the lack of means of rapid transportation from the farm to the city markets, but with the extension of north and south and east and west lines in the South, bringing Boston, New York, Philadelphia, Pittsburg, Cincinnati, Chicago and other Northern and Western cities into close touch with the South, truck farming has rapidly developed.

Prompt handling by the railroads, refrigerator cars and a steady demand in the market are encouragements for the undertaking. The soils of the South are peculiarly adapted to the industry, and the tendency toward the diversification of crops, aided by the influx of small farmers from the North and West, will tend to accelerate the movement, which will have additional support in the upbuilding of the manufacturing industries of the South.

* *

Acalypha Sanderiana.

This plant lately introduced from India, has been exhibited at a number of flower shows the past autumn, and attracted much attention on account of its novel appearance, it being much like that of the *Amaranthus caudatus*. Whether it is to remain as a show plant in the greenhouse or to be otherwise used, is yet to be determined by further acquaintance and trial. *American Gardening* says: "*Acalypha Sanderiana* is a greenhouse plant, but we do not see why it should not be effective for summer bedding purposes, and its free growth, bright colors and peculiar characters, should make it a very striking object in any garden."

* *

Poinciana.

In the number of this MAGAZINE for September last, E. W. P. gave a personal experience in regard to *Poinciana Galleisii*. It is probable that the name of the plant described is *Poinciana Gilliesii*, which is regarded as a synonym of *Cæsalpinia Gilliesii*. It is a native of the region of Mendoza, Argentina. It is a hard-wooded, deciduous plant that is best suited with a warm greenhouse. It drops its leaves in winter for a short time only, and then renews them, and is considered a handsome plant, even when not in bloom. Judging from the experience of E. W. P., it probably will not become a favorite house plant.

Letter Box.

In this department we shall be pleased to answer any questions relating to Flowers, Vegetables and Plants, and to publish the experiences of our readers.

EDITORS.

Grand Plants of Caladium esculentum.

P. W. Gerhart, Jr., at Grand View, Wernersville, Pa., took measurements of his collection of Caladiums, and finds the largest leaf to measure fifty-one and three-fourths inches in length, thirty-six wide, circumference of plant at bottom, twenty-one inches, height twenty-three and one-half inches to end of stem, ninety-two and one-half inches in natural position, and 106¼ inches to tip of leaf. He has at this writing, (October 5th,) six caladiums in bloom, one plant having two flowers, one of which measures twenty-three inches in length.

++

Tuberous Begonia Bulbs.

Last spring I received some tuberous begonias. I would like to know through the Letter Box how they should be treated after they are done blooming, and if they should be repotted in larger pots.

MRS. I. S.

New Holland, Pa.

Let them dry off and keep them in the soil in the pots during winter, in a dry and moderately cool place. Remove them and repot in small pots in March.

++

Crimson and White Rambler Roses as Winter Bloomers. Otaheite Orange.

Please tell me through the MAGAZINE if the crimson and white Rambler roses are perfectly successful as winter bloomers.

The Otaheite Orange I bought of you two years ago is getting to be a perfect specimen, having fifteen branches started in the last month, and has been beautiful in blossom.

MRS. W. C. M.

Union Springs, N. Y.

The Crimson Rambler is very successfully grown to come into bloom at Easter. It is probable that the White Rambler can be treated in the same way with similar results. We can do no better than to refer our correspondent to the June number of this journal, page 119, where will be found a communication on this subject, giving the treatment in detail.

++

Coleus in Failing Condition.

What can I do for my coleus, a handsome one with large leaves? It was a slip last spring, has grown in a pot all summer, was repotted about the tenth of September, and put in a sunny window, and was growing finely until about the twentieth of October, when the leaves began to drop off. I found the soil rather dry and somewhat full of roots, and have again repotted it—some ten days ago—in fresh earth about one-half garden soil and one-half wood earth, with a little old manure, but now the leaves are nearly all off, although the plant has been kept wet since last repotting. It shows no insect or other growth on the leaves.

Lebanon, N. H.

MISS M. B.

It is probable that the plant since repotting has been subjected to a low temperature, at least at night—a temperature too low to allow it to start a new growth. Keeping the soil wet at a time when the plant was suffering for lack of heat has only aggravated its ill condition. If it can be placed in a warm greenhouse for a time, its vigor will be restored.

++

Mice Gnawing Bark of Trees.

I have some young apple trees, and the mice, or something else, are gnawing the bark, which we did not expect, if at all, until snow came. The trees have been cared for, and grass hoed away three or four feet. Some advise painting with tar to prevent them, others say the trees will sunburn where it is put on. Will you be so kind as to advise me what to do.

MRS. S. L.

Brattleboro, Vt.

Take one peck of quicklime and slake it. Old soapsuds is said to be better for this purpose than clear water. Make the wash about as thin as for a thick coat of whitewash. Heat the wash, and while hot add one-half gallon of crude carbolic acid, one-half gallon gas-tar, and four pounds of sulphur. Stir all well together, and with it, by means of a brush or broom, paint or wash the bodies of the trees. This will prevent mice or rabbits from gnawing the bark.

++

White Roses for Cemetery.

We are planning a bed of white roses for a cemetery, and would like to ask for a little information concerning the Marchioness of Londonderry, Perfection des Blanches and Margaret Dickson. The ground is high and not much shaded, therefore it gets the wind pretty strongly. We had a bed of American Beauties on the same piece of ground this summer, and they were fine. We want a variety which will be hardy, (with a protection of leaves, etc.) stiff-stemmed, and will bloom all summer. Would either of the varieties named answer, or could you recommend one that would be better?

G. B. A.

Boone, Iowa.

Neither the Marchioness of Londonderry or Margaret Dickson are constant bloomers. They bloom in June, with, possibly, a few flowers in August. Perfection des Blanches will bloom through a longer season than the others, but it is inferior to Coquette des Alpes. But Clotilde Soupert blooms both more freely and more continuously, and, from the fact that it is a very dwarf grower, it can be more easily protected in

winter, and for the purpose named it can be recommended with more confidence than the others.

++

Root Cuttings.—Night Blooming Cereus.

1.—Will you please tell me what time of year slips should be taken off, and how they will take root best, to place them in water for a few days, or put them in dirt at once after taking off.

2.—I have a Night Blooming cereus that is seven years old, has never blossomed. What can I do for it to make it blossom?

MRS. R. R.

Mt. Vision, Otsego Co., N. Y.

1.—Cuttings of different kinds of plants can be made best, some at one season and some at another, and of some kinds at almost any season. But of nearly all plants usually kept as house plants, as well as many kinds of shrubs, cuttings taken in July and August and set in a nice mellow bed in the open ground, and shaded for a few days during the hottest part of the day, until accustomed to the change, and then fully exposed, will root readily and make healthy, strong young plants in the shortest time, and with the least trouble or attention.

2.—Keep the cereus nearly dry from this time until March or April, and then, when allowed more water, it will start again to grow. Keep it in as warm and sunny a place as possible during summer.

++

A Barren Climbing Bittersweet.

I have a Climbing Bittersweet vine, *Celastrus scandens*, which will not bear berries. It flowers freely in spring, and grows well. Can you tell me through the MAGAZINE why the berries fail, and if any treatment will make it fruit. It is in common garden soil on the north side of a fence, rather shaded, but gets the morning sun. Would the sea air effect it, being about a mile from the coast? I would be very glad to have the berries grow. I find many helpful hints in Vicks MAGAZINE.

Falmouth, Mass.

C. M. L. L.

The Climbing Bittersweet is somewhat peculiar in its character. Its flowers are not what is called "perfect," that is having both stamens and pistil; but these organs are borne separately, on different flowers. A plant may bear both kinds of flowers, and in that case the pistillate flowers are succeeded by berries. Usually the *Celastrus scandens* bears both kinds of flowers and is berry bearing; but it is sometimes the case that a plant bears only pistillate flowers, or, else, staminate flowers only. In either of these cases there can be no berries to follow the bloom, unless another flower of the opposite sex should be growing near by; if that should be so, a plant which has only pistillate flowers might be fertilized and bear fruit; but a plant having staminate flowers only can in no case bear berries.

++

Mignonette for Forcing.—Violet Diseases.

1.—Which is the best variety of mignonette for forcing in pots? What size pot is best?

2.—And now for one more question. I have a house recently stocked with a thousand violet plants,—Luxonne and Princess of Wales. During the last two weeks they have developed "Leaf Spot" and "Yellows," and the diseases so far have resisted all my attacks with copperdine and sulphur, and I fear that I shall lose the plants. Can you suggest a probable remedy? Is Postite or Bordeaux better for this purpose?

MRS. W. H. B.

Florence, N. J.

1.—One of the best varieties of mignonette for forcing is the Machet. Miles' Spiral is raised by some growers. The new Hybrid Spiral and the Golden Machet are both excellent forcing varieties. Seed sowing should be made about the first of August. The favorite method of growing is in solid beds. When grown in pots the seed is sown in flats, and the young plants potted off in two-inch pots, and afterwards transferred to four-inch pots. The soil should be quite rich.

2.—Not much can be said for encouragement about the violets. The use of fungicides for violet diseases has not proved of decided advantage. Picking off and burning all diseased leaves as soon as they appear, using care not to wet the plants in watering, and keeping the temperature down about to 45 degrees at night, and not above 55 degrees, if possible, in daytime, are about all the attentions that can be given. It has been found that violet diseases are much less prevalent when grown in beds by sub-irrigation.

++

Sweet Peas.

For two years I have had trouble with my sweet peas. I will give my method of culture. I prepare the ground in the fall with well rotted manure from the cow yard; in the spring as early as possible I dig a trench six or seven inches deep, plant peas pretty thick, cover as they grow higher, until the soil is even with the surface; have a wire netting to run on. When they begin to bud and bloom nicely the bottom stems begin to turn yellow and gradually die. I examine the soil around the root but find no worm or insect there. I make holes on each side the rows to water freely without wetting the vines; always use suds after wash days, but never water only in the evening. I have failed to see a remedy in any floral magazine. Perhaps some one can name a remedy, and if so, I wish it might be given through the Letter Box in VICKS MONTHLY.

Logan, Iowa.

MRS. R. L. A.

For three or four years past we have published accounts similar to the above. The trouble has appeared in different parts of the country, and

in England, the same as here. No special or positive remedy has been learned. But the following method of treatment is found most advisable:

Do not manure the ground directly for sweet peas, but plant them on ground that has been enriched the previous season for some other crop, and which leaves it in good condition for the peas. Give the peas considerable room in planting, or if they come up thickly thin them out so as not to stand closer than three or four inches apart. After the plants are up hoe the ground frequently, and keep it fine and mellow to a depth of three or four inches. If this is done it will take the place of watering, which should not be resorted to except in case of a great drought—then there should be a thorough soaking of the ground once—not a little water applied every day to the surface. Pick the flowers every day, or as fast as they open, and do not allow them to go to seed.

++

A Desirable Country.

A great many of the readers of this MAGAZINE may not have any definite knowledge of our southern country, especially as to whether or not it is a desirable country in which to live. I will say:

1—That all parts of it are well adapted to the production of some kind of fruit and generally to all kinds. The soil and climate are congenial to the leading common fruits of North America. The last ten years have fully proved this.

2—It is especially adapted to vegetable or truck farming. This has already been proved by the actual results that have followed the ventures and efforts of those who have engaged in this line of farming.

3—It is well suited to almost all kinds of general farming.

4—The climate commends it to all who would seek pleasant homes.

5—Land is fertile and cheap, and may be obtained on easy terms.

6—The people are noble and generous, and welcome all who come here to seek homes and happiness.

I will answer all special inquiries direct to me, if the inquirer will enclose 10 cents, with his address. I am not a real estate nor any other kind of agent, and am only interested in a general way in the prosperity of our country. I will give facts just as they appear to my view.

T. H. GRANBERRY.

224 Second Street, Memphis, Tenn.

**

THE PANCRACTIUMS.

THE pancractiums are also known as Hymenocallis, and popularly as "Spider Lilies." They are interesting half-hardy bulbous rooted plants, having coated bulbs, long linear leaves which are mostly deciduous, a few being persistent, and producing their large, pure white, deliciously sweet scented flowers in bracted umbels; each umbel containing from ten to twenty flowers. Although some of the species have been in cultivation for many years, it is not until within the past few years, that they have been brought prominently before our amateur cultivators under the popular name of Spider Lilies, and they well deserve all that has been said in their praise, as the bulbs can be procured at a very moderate cost, and are well adapted for cultivation in the greenhouse or window garden during the winter months, and, also, in the flower borders during the summer season.

In the flower border, the bulbs should be planted as soon as the weather becomes settled, giving them an open, sunny situation, and a deep, well enriched soil, and in seasons of drought occasional supplies of water. As soon as the foliage has been destroyed by frosts, the bulbs should be carefully lifted, dried, cleaned, and then stored in a dry cool place for another season's use. Or the bulbs can be taken up before frost has injured their foliage, potted, and placed in the window garden or greenhouse, where they can remain as long as they continue in a state of growth.

For cultivation in the greenhouse or window garden, the bulbs should be potted in a good soil. One that is suitable can consist of two-thirds turfy loam, one-third well decomposed manure, and a good sprinkling of bone dust, mix well and use the compost rough. Use pots proportionate to the size of the bulbs, and see that they are properly drained, and in placing the bulb in the pot let them be about two-thirds covered. The bulbs can be potted at any time, and after being thoroughly watered, place in a light sunny position, and start into growth. Inside they should be given a temperature of from fifty to sixty degrees, and an abundant supply of water both overhead and at the roots. They should be lifted out into larger pots, whenever it may be necessary, but it should be remembered that they bloom best when slightly pot-bound, and at this time a little liquid manure can be given to good advantage. When the plants retire into a state of rest, which may be known by a cessation in growth, the supply of water should be reduced, giving only enough to keep the foliage, and the large fleshy roots from drying up and dying.

At the close of the resting season, a period of about three months, water copiously, and keep the plants growing vigorously until the beginning of the next resting season. When growth commences, remove the top soil down to the roots, and replace with fresh soil, water freely with liquid manure during the growing and flowering season, shifting on into larger pots whenever it may be necessary.

Propagation is effected by offsets which may be carefully removed

when the bulbs are being repotted or planted outside. They will require the same treatment as the parent bulb, but it will be several years before they are large enough to bloom. Of the many varieties the following are the most desirable:

PANCRACTIUM CARRIBÆUM. This is popularly known as the Spider or Spanish lily. It is a native of the West Indies, and the extreme southern parts of Florida, and when well grown is a magnificent plant, with wide, rich, evergreen leaves, and produces during its season of growth large clusters of fragrant flowers. With a little care, the plants of this species can be kept in a constant state of growth.

P. CORONARIUM. This rare and beautiful species is a native of the rocky islands of the Congaree river, in the north of Florida. It grows about two feet in height, and has bright green, lance linear leaves.

P. CALATHINUM, is popularly known as the Sea Daffodil. Its flowers are very fragrant and of a pure white color.

P. OVATUM, is one of the most rare species, and is beautiful beyond description. Leaves very large, of a bright green color, and the flowers which are produced in immense trusses are white, and highly fragrant.

P. ROTATUM, is a native of Florida, and closely resembles *P. Carribæum*, but is much smaller in all its parts. The flower spike bearing only one or two flowers. Two or three bulbs can be placed in a five or six-inch pot. It grows about eighteen inches in height, the leaves being long, strap shaped, and of a glaucous green color.

Floral Park, L. I.

CHAS. E. PARNELL.

**

A DESIRABLE LIST OF PLANTS.

Having been asked by a friend to furnish a list of flowering plants, which I could recommend, I sent the following. Thinking it may be of interest to your readers to know what one lover of flowers thinks to be a desirable list, I send it to you, that you may publish it if you wish. I believe that all of those named are desirable, but in order to assist those who might not want so large a variety, I have marked with a star those which I would recommend, and with a double star those which I most highly recommend. This list will furnish a continuation of blossoms from the earliest spring flowers till the frost takes the last in autumn.

V. P.

Burlington, Vt.

PERENNIAL FLOWERING PLANTS.

EARLY.		GAILLARDIA.
**Trollius.		*Delphinium.
Trillium.		" Chinese blue, white,
*Papaver orientale, red, pink,		**Coreopsis grandiflora.
salmon.		Campanula glomerata.
*Peonies, single and double.		Aster Alpinus.
**Papaver nudicale, yellow.		Hardy pinks.
* " " white.		Heuchera.
*Lychnis viscaria.		LATE
** " plenissima semperflorens.		*Rudbeckia, Golden Glow.
* " diurna rosea.		Helenium autumnale.
*Linum Austriacum, blue.		Helianthus.
** " flavum.		* " latiflorus single.
" perenne var. album.		** " orgyalis.
**Iris Sibirica.		** " multiflorus, double.
* " " var. album.		**Boltonia.
** " Kaempferi, variety.		*Aster Novae Angliæ.
" Spanish.		* " " roseus.
** " Germanica alba.		* " multiflorus.
" " variety.		" longifolius.
*Iberis sempervirens.		" amellus Bessarabicus.
Alyssum saxatile.		*Salvia splendens, (annual.)
*Aquilegia cœrulea, Rocky Mt.		*Pyrethrum uliginosum.
Columbine.		BULBS.
** " chrysantha, yellow.		*Crocus.
" oxysepala.		Scilla.
SUMMER.		**Tulips.
*Pyrethrum, double.		Hyacinths.
**Platycodon, blue, white.		*Lilies.
**Phlox decussata, variety, white,		**Gladiolus.
pink, scarlet.		

ANNUAL, FROM SEEDS.

**Poppies.	*Dianthus.
**Asters.	**Salpiglossis.
**Sweet Peas.	**Nasturtium.
**Cosmos.	**Canterbury Bells, double and cup
*Mignonette.	and saucer. (biennial.)

THE PEANUT AN ORNAMENTAL PLANT.

Few readers of VICKS MAGAZINE are, perhaps, aware what a thing of beauty is a common peanut plant, growing singly in a six or eight-inch pot, and grown indoors during the colder months. Kept in a warm room, or by the kitchen stove, a peanut kernel, planted in a pot of loose mellow loam, kept only moderately moist, will soon germinate, and grow up into a beautiful plant. It is in a similar way that peanut growers test their seeds every year, beginning even early in winter, and the facility with which seeds will grow in this way has suggested to many Southern flower lovers the possibility of making the useful peanut an ornamental plant for the parlor or sitting room window.

As the plant increases in size, and extends its branches over the sides of the pot in a pendant manner, there are few plants of more intrinsic beauty. The curious habit of the compound leaves of closing together, like the leaves of a book, on the approach of night, or when a shower begins to fall on them, is one of the most interesting habits of plant life. And then, later on, for the peanut is no ephemeral wonder, enduring for a day or two only, the appearance of the tiny yellow flowers, and putting forth of the peduncles on which the nuts are formed under ground, imparts to this floral rarity a striking and unique charm all its own. There is nothing else like it, and seedsmen might well add the peanut to their list of novel and rare things.

Even in Canada, the peanut might be grown in this way, only giving it all the light possible in the warm part of the day, or setting it out of doors in summer time. The peanut likes the sun and warmth, but does not require much water. Only keep the soil of the pot perceptibly moist, but not wet, and plenty of external air, when not too cold, and the plant will grow vigorously.

The flat-growing, or common Virginia peanut, is the sort best adapted for ornamental work. The reader might get a few seeds from any dealer in peanuts in the town where he lives. An examination will show whether they are likely to germinate. The seed may be planted at any time, regardless of season.

OLLIN.

* *

HOLDING AND MARKETING FRUIT.

Mr. C. S. Walters, writing in a recent number of the *American Cultivator*, in regard to cold storage of fruit urges that farmers who raise more or less fruit to arrange a cold storage room in connection with an ice-house in order to preserve fruit until there is a favorable time to market it.

With ice plentiful it is an easy matter to keep fruits, poultry and other produce in cold storage. One of the best fruits for keeping in cold storage is pears. So far nobody has succeeded in raising the right sort of winter pear,—that is, a pear equal to our Bartlett or Seckel. The result is it pays better to keep these pears until late in the fall than to sell them during the height of the season. Boston ice-house Seckel pears are a distinct feature of our late autumn markets, and they sell as high as \$3 and \$4 per bushel box some seasons. This is due simply to the fact that a specialty is made of keeping these fruits in cold storage in Boston, and the pears are best in the market.

Now any grower of these pears can keep his fruits just as well. The very choicest fruits should be selected for this work. Heretofore farmers who have stored their pears, have selected the common kinds for the work, because they thought it more or less of an experiment. That does not pay. People who buy Bartlett and Seckel pears around Thanksgiving and Christmas, are those who can afford to pay the highest prices, and they want only the choicest fruits. They must be free from all spots or blemish, and then they must be kept in a condition that will make them attract the eye when placed on the stand.

The course here advised is undoubtedly correct for those living near a good market. It is a fact that fruit does not keep long that has been held in ice storage, so, if one is a considerable distance from market, his fruit may go flat after he sends it and before it gets into the hands of the consumer. It is far safer in this case to raise a later variety, and with two such varieties as the Anjou and Lawrence, there is no danger that they would not command the best price of the market if offered in fine condition. Ellwanger & Barry, of the Mount Hope Nurseries, of this city, have for several years made a specialty of raising the Anjou and sending it to eastern markets, where it sold at handsome prices. Nor is it necessary for them to keep the fruit in ice storage.

With a fruit house having walls and roof made non-heat conducting—double walls, filled between with substances that are non-conductors of heat, the same as ice-houses, they are able to maintain an equable and low temperature during autumn and free from frost during winter. Fruit of late growing varieties of pears such as the two named above, does not mature until late in the fall, and after gathering it can be kept in trays for several weeks under a shed, and finally, placed in the fruit room when heavy frosts approach.

This is the course pursued by the parties mentioned. When ready to send to market the fruit is carefully graded so as to be nearly of uniform size, each separate pear is wrapped in manilla paper, the wrapper bearing the trade mark of the firm, and their name and address. The pears

are then carefully and closely packed in layers in a box, and this when covered is ready for shipment. This fruit can go into any of the eastern markets, and the retail dealer, or the consumer, has only to place them in a room of ordinary warmth for two or three days to have them take on a fine yellow color, and to be in prime condition for eating. How to put fruit into the market is a lesson that few fruit growers have yet learned. One day the past autumn, the writer saw a countryman on the street in this place with three or four barrels, in a manure wagon, containing some Duchess or Angouleme pears, for the most part fine looking, but unassorted as to size, and which were yet hard and green in color, and for which he was awaiting a purchaser. What wonder that he should get but little for them!

The Lawrence and the Anjou by proper management will come into use for Thanksgiving day, or they may be held in a properly constructed fruit house, to be marketed at the winter holidays, or sometimes even later, if desired.

* *

SURVIVAL OF THE FITTEST IN CROP PRODUCTION.

A mysterious, and as yet dimly understood, but economical law of nature, decrees that only the fittest of all animals and plants that are annually born shall survive and flourish in the struggle of life. Statistics show that over half of mankind even die before reaching the age of twenty years.

Clearly many human beings, as well as plants, are born weaklings and born for naught (?). Dame Nature's fixed laws of transmission and reversion, as regards individual differences, come actively into play in the succession of life. The structure of every organic being, whether it be animal or plant, is related in the most essential, yet often hidden manner, to other individuals of the same breed. And in the struggle for subsistence, the weaklings or nature's outcasts invariably fail.

In the case of plants propagated from seed, a peculiarly prepotent, prolific and progressive propensity, bred within the germ of certain individual seeds, has the capacity to produce plants which yield a maximum quantity of the highest quality. While other particular seeds of the same parent stock (clearly nature's outcasts, or thoroughbred scrubs,) inherit a tendency of barrenness or scanty production. And through the agency of pollination they contaminate and weaken the prolificacy of the more lowly of nature's favorites. And it may truly be said that there are drones and idlers in plant life, as well as in hives of bees, or communities of men. The characters of barrenness and improlificacy, without doubt, do more to reduce the average yield of our cultivated crops, than all other causes combined. This being particularly the case during unfavorable seasons.

Every barren or diseased plant that is allowed to grow in a cultivated field, not only unworthily feeds on the nutriment of the soil, but through the means of degrading pollination; it reduces the prolificacy of at least one hundred other plants which are fitted by nature for fair to good yielders. The farmers of the "Emerald Isle" plant their seed very much thicker than they aim for it to mature, subsequently thinning the growing crop by destroying the weakling plants and allowing the most vigorous and prolific (nature's favorites) plants to survive until maturity. The cotton planters of "Dixie" learned years ago to plant much more seed per acre than is required to produce maximum fields. And it is a common practice with them, after the plants grow large enough to be judged correctly, to go through the fields, destroy the weak supernumary plants and allow only the vigorous, prolific, healthy plants to occupy the soil. This same practice undoubtedly greatly increases the yield of corn and other farm crops. The writer's experience in seed growing proves this to his mind beyond doubt. By planting very thickly, and subsequently thinning to a proper stand, by destroying the weakest and degenerate plants, I am not only assured of a good stand in itself, but a good stand in the most prolific, typical healthy plants, which are fitted by nature for maximum yielders. And I firmly believe that as farmers become gradually forced to farm on the intensive plan, following the practice of "rogueing" out the drones in growing crops, the average yield of the present day, of cereal and vegetable crops, will not only be doubled but quadrupled. This practice is what we seed and plant breeders term "rogueing." And in its vigorous prosecution lies not only the secret of success in producing maximum yields, but in leading seeds and their plants in progression's pathway. The degree of perfection that will be attained in the not far distant future, by ingenious seed and plant breeders, in the improvement of vegetables, and flowers, will cause the glad earth to pour out her blessings to the husbandman in far greater profusion in the way of maximum yields than has ever yet been dreamed of by man.

Voorhies, Ill.

J. C. SUFFERN.

* *

100,000 new subscribers in 1899. Will you help?



Deutzias force easily.

A thicker coat for celery

Dark days, few flowers.

And the pine trees murmur on.

Are the strawberry beds yet uncovered?

Window plants never enjoy being crowded.

The home conservatory is now a delightful place.

Cherry twigs in heat and water soon blossom.

As you call on neighbors why not mention the MAGAZINE?

Orchids are hardly destined to become popular as house plants.

What a comfortable refuge is the evergreen shelter belt on a rainy day.

A cheering thought. The flowers are but sleeping under the snow cover; how the panics will laugh in the spring.

Many a plant stored in the cellar, is killed by drouth. But from this remark do not go to the other extreme and keep plants too damp.

So say we. An esteemed correspondent writes: "I always encourage my young friends to believe that plants and flowers are better pets than lap dogs."

A hint for the Holidays. Twelve visits of a journal like the present one, to a flower loving friend, is basis enough for including it among your lists of Christmas gifts.

Snow is the ideal covering for small plants. A coat of other material may smother the plants, the snow never will. Therefore, to strew the ground with light litter that will hold the snow is a good principle to observe in winter protection.

Our family of readers has now grown so large that we cannot refrain from saying to many others: "Come with us. The secret of our large company is easily discovered; a monthly treat of good things at less than bargain counter prices."

Fertilizing value of crops is thus spoken of by a Michigan correspondent: It is demonstrated that when you sell \$500 worth of hay you part with fertilizers of \$366 value; in the same amount of wheat you give up fertilizers to the value of \$125; of dairy products thirty-eight dollars, of fruit much less than either. In selling fruit we sell largely of water and little of real solids.

Holiday flowers. The skill of man in demanding of nature what amounts to almost a reverse of the seasons in floral bloom, is nowhere better illustrated than in the forcing of holiday cut flowers. In every large city, flowers, literally by the carload, are brought from the artificial heat of the plant houses, and are offered for sale to the ready buyer at the flower stores. To visit some of these shops at the holidays, one would think that December, not June, was the time of roses; that winter, not spring, was the time of violets and lily of the valley. The lesson taught is that of the adaptability of plants to

circumstances far removed from nature. Some of our successful amateurs apply this lesson to the window garden with the result that beauty reigns here throughout the winter.

Distance for Apple trees. This subject is treated, in a recent bulletin of the Pennsylvania State Experiment Station, and accords very nearly with the present writers experience. The argument is for planting at wider distances apart than has usually been the custom. But then it starts out on the premise that the best soils are none too good for the apple orchard, and that such will develop much larger trees, than will the poorer hillsides so commonly chosen for orchard sites in the past. For the stronger growing kinds like the R. I. Greening, Bellflower and Baldwin, a distance of forty feet is none too much, while these with less spreading heads like the Northern Spy and Ben Davis should have thirty feet space each way. This assumes that the orchards are regularly to be cultivated, a practice that now prevails in all good orcharding.

When to order trees. Because the spring planting season is far off, those who think of planting at that time, in many cases seem to think that the time for ordering the stock, for spring planting, may be long deferred. This is not a good plan. Nurserymen observe the filling of orders by the rule first come first served. Therefore to get your order early to the nursery, means that you will receive your stock early from the nursery, and this is always a matter of great advantage in planting. Generally nursery lands are well drained, hence the digging of the stock in spring may be and is begun early, and of this you may as well have the benefit. As between early and late planting in the spring the advantages are all in favor of the early planting. The writer has been a large tree planter in his time and has always found that the early planted stock starts growth more certainly and better than that planted later. As this is a gain of decided importance, he is one who sees to it that his orders for spring delivery are in the nurseryman's hands very soon after the close of the fall planting season. It is a gain in which not money but forethought is the thing required to secure it.

Planning your planting. The average planter, especially of ornamental stock, does not plan operations with sufficient care. We recall more than one instance where trees that were set without due forethought, have caused a good deal of annoyance year by year afterwards. "Why didn't I set that tree four feet in the other direction?" is perhaps the way it afterwards is stated. Now the way to avoid such things is to go systematically about the planning of the grounds, and that in ample time before the trees are set. As a matter of fact, this is a delightful task, and one that if entered upon with zeal, will not only result in grounds capable of imparting higher pleasure, but the owner will be sure to school his mind along the lines of kinds and adaptability in a way that will give new interest in gardening. Of course, to plan grounds in a satisfactory manner one must go about it right. Here the aid of some good up to date work on popular landscape gardening will come into play. There are several such offered for sale by dealers in horticultural books; or if you have access to a public library, you may find them there. The best works on this subject are those that advocate natural principles of tree and shrub arrangement. That means, that the planting material is set somewhat irregularly as it is found grow-

22d ANNUAL ANNOUNCEMENT.

1899

Columbia^a & Hartford Bicycles

PRICES ON AND AFTER NOV. 1, 1898

Columbia Bevel-gear Chainless, \$75.00
Models 50 and 51.

Columbia Chain Wheels - - - - 50.00
Models 57 and 58.

Columbia Chain Wheels, - - - - 40.00
Model 49, 1899 Improvements.

Columbia Tandems, - - - - - 75.00
Models 47 and 48, Diamond and Combination Frame.

Hartford Bicycles, - - - - - 35.00
Patterns 19 and 20.

Vedette Bicycle { Pat. 21. for Men, 25.00
{ Pat. 22. for Women, 26.00

We also have a few Columbias, Model 46, and Hartfords, Patterns 7 and 8, on which we will quote prices on application.

No need to purchase poorly made bicycles when Columbias, Hartfords and Vedettes are offered at such low prices. The best of the riding season is before you.

BUY NOW.

POPE MFG. CO., Hartford, Conn.

ing in natural landscapes or plantations. The reasons for this are plain; the mind never tires of the irregularity of a handsome natural landscape, while all artificial arrangement of grounds, including the presence of straight lines and angles in buildings and lot boundaries have the reverse of a restful effect on the mind; our plantings therefore should in large measure be on an irregular plan, in order to counteract the regularity that so generally prevails about our buildings, homes, towns, etc. Indeed in seeking models to plant after, it frequently is the case, that one cannot do better than to take a trip to the meadows and clearings, and thus make a choice of groups and arrangements to be copied in the home grounds. This entire subject of the tasteful arrangement of grounds, and the selection of the handsomest and most appropriate kinds of planting stock for a given purpose, is one of great fascination. It may well receive a good deal of attention, from the careful planter, during the long winter evenings.

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LIQUID FERTILIZER.

A liquid fertilizer much cleaner than liquid manure, and which can be prepared at a very small cost, is that called Wagner's Solution, being so named after Professor Paul Wagner, Director of the German Experiment Station at Damstadt. The results given in the use of this fertilizer have been very satisfactory. It was prepared especially for use on chrysanthemums, but is valuable for any plants needing a liquid fertilizer. The materials and proportions are as follows:

Phosphate of Ammonia,	-	2 ounces.
Nitrate of Soda,	-	1 3/4 "
Nitrate of Potash,	-	1 3/4 "
Sulphate of Ammonia,	-	1 1/2 "
Water,	-	50 gallons.

In using it on chrysanthemums it is well to commence about six weeks before the blooming season, applying it twice a week, and continue until the close of the season.



WINTER PROTECTION OF ROSES.

I note a way of covering roses described in the November (98) number as suitable for northern Illinois. I would like to tell for the benefit of small garden growers, that a less troublesome way which I have found successful, in the same locality, is to use corn stalks. I do not cover until the ground is frozen, usually the last week in November, have been as late as the second week in December. The bushes are laid down in pairs, that is, the tops of two opposite ones are bent towards each other. This admits of using the corn stalks at about their usual length. Enough are used to make a pile about a foot or eighteen inches in thickness over each pair, which is weighted or staked so as to keep the stalks in place. I find it necessary to cut and shock the corn in October in order to have enough blades on them to be of any use.

++

GOOD THINGS.

A really good thing is *Asparagus plumosus*. Its color is fresh and pretty, and its delicate branches are a beautiful film of lacework. Nothing is finer for buttonholes or bouquets, nothing remains fresh longer, and nothing grows faster and with less coaxing. Just a little sunshine, good soil and plenty of water, and it throws up shoot after shoot of its feathery sprays, and keeps at it the year 'round; at least mine has never stopped growing in the year I have owned it. Its sister, *Asparagus Sprengeri* is equally desirable, and said to have an added charm in its fragrant white bloom and red berries. Mine is not yet old enough to bloom, but is a thrifty, beautiful plant.

The sweet little polyantha rose, *Clotilde Soupert* is a fine house plant, even in the amateur's window, always in bloom.

Nicotiana affinis, for evenings can not be surpassed. No lily is sweeter, and the foliage, if kept washed and clean, is handsome. EVAN.

++

AN INVALID'S GARDEN.

I have a very small garden, part of which is clay (that means clay in this locality). Some people would not try to have a garden at all if they had not better soil than mine. Perhaps I should not were it not for the help and encouragement I have derived from *Vick's Catalogue and Magazines*, and then, the love of gardening is born in me. My parents came from England and loved flowers and gardening before me.

My garden does not appear very nice, for I have been an invalid a good many years and cannot hire very much work done, but it surprises people to know what is produced there in a season, beginning with horseradish and asparagus in the early spring and continuing until hard frosts in the fall. Perhaps I may say we begin with snowdrops. The first of these last spring were picked March 14th, and we have had more or less growing ever since, and considerable stored for the winter. Sometimes a wise-acre will view the spot and with a shake of the head tell me I "have too many flowers."

I have a way of my own for raising flowers and vegetables so that we have a good many of both, but I learned much of it from *Vick* and experience.

When I was young, one day a neighbor came in and told me that she had got the start of me. It was the 13th of April and she had got her garden peas in. She had soaked them in hot water and she knew she would have green peas before I did. She had excellent soil and a man to do her work. I had clay soil and had to spade and prepare it myself. I did not say much, it was not my way, but the next morning the mail carried an order to *Vick* for a packet of his earliest peas. To make a long story short, I had green peas three weeks earlier than she did, and she never bragged over me again. E. C. B.

Clayton, N. Y.

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FLORICULTURE IN FLORIDA.

It is a real pleasure to grow flowers in south Florida, just out of Jack Frost's reach; here the tenderest of hot house beauties grow in the open ground in greater vigor than ever seen in the glass houses at the North. *Coleus* of every variety grow like a weed, often four or five feet high, with large leaves painted in the brightest and most delicate shades. During the rainy season a branch broken off by the wind will take root in the sand and start out for it-

self, while it is no uncommon sight to see the ground covered with fresh looking leaves near large plants, which when picked up will be found nicely rooted. The climate here, the sandy soil and hot sun seem to meet all the requirements of the *coleus* to make it a success.

Tradescantia grows and spreads like that old garden pest "pusley." There is an erect variety much cultivated here having the color of the *Multicolor*, but growing upright like a century plant and it makes a lovely pot plant. Why don't northern florists give their customers something new in the way of some of these southern plants. Although I was at the World's Fair and have visited many large greenhouses, I never saw a *Phyllanthus* until I came south. Now I have one I have refused \$10 for which a year ago was only a tiny slip. It is now four feet high and bushy; foliage is small splashed with creamy white and pale green on a bronze green, the ends of the branches or new growth a deep wine red and pink.

Then there is the Bird of Paradise flower or *Barbadoes Pride* or *Spanish Carnation*, otherwise dwarf *Poinciana*. This plant will bloom from seed when only six inches high, is just as easy to grow as a geranium and much prettier; the foliage is mimosa-like and very pretty. There are two varieties, one with yellow flowers and one with rich orange-red edged with yellow. The flower is bird-like in form, having five petals; one is a curious round petal forming the neck and head of the bird with the other four petals shell like and crinkled edges in pairs on either side while the long stamens—red, tipped with yellow—curve over and form the bird's tail. The flowers are produced in clusters of twenty to thirty. These plants are very easily grown from seed.

There is a beautiful *Cycad* here which is as handsome as the *Sago Palm* only smaller. The lovely fern-like leaves look as if varnished and winter tourists greatly admire it and hundreds are taken north by them. They are almost sure to drop their leaves when transplanted, unless started in pots. The seeds are as easy to grow as any other palm seed and I believe that would be the surest way to obtain this variety, although it is offered by some florists in several sizes. Its botanical name is *Zamia integrifolia*.

The *Indigo* of commerce grows in abundance here and the amount of seed one plant will produce is surprising. J. D.

Miami, Fla.

++

OUR FRIENDS, THE TREES.

"What does he who plants a tree?
He plants a friend of sun and sky;
He plants the flag of breezes free,
The shaft of beauty towering high;
He plants a home to heaven anigh;
For song and mother croon of bird
In hushed and happy twilight heard—
The treble of Heaven's harmony;
These things plants he who plants a tree."

Ever since reading a paragraph in the October number of *VICKS MAGAZINE*, these lines have been running through my head. I was always, when a child, glad to see one of the plate-book tribe come in, and I verily believe I would have ordered every tree advertised if possible; perhaps it is well I could not.

What a dreary, dreary world this would be if there were no trees in it. Flowers are beautiful, brightening and cheering, but if I should be compelled to choose between trees and flowers, I would unhesitatingly choose the trees; but thanks to the kind Creator of all, we can have an abundance of both if we will.

Many of the trees unite utility and beauty, they give us abundant shade, and though lovely when clothed in green, they are still more beautiful when covered with blossoms, and later when loaded with fruit we feel as if we could ask no more of them. Among the most ornamental trees the Japanese hybrid *catalpa* ranks among the first, having bright green foliage, and during the blooming season is fairly weighted down with huge panicles of fragrant blossoms. It is a rapid grower which is a strong point in its favor. The locust is another favorite, indeed, I think it more desirable than the *catalpa*, perhaps it is because I have always had a partial fondness for it for brightening the landscape of the plains of a western State, where I lived for a while; there in every grove, on every ranch, was to be seen the lovely locust trees and frequently the towering Lombardy poplars, they seemed to stand the hot dry summers better than the other shade trees. The evergreens are also favorites, among them, the flat cedar is perhaps the loveliest. Other desirable ornamental trees are, the golden and silver-leaf poplars, drooping elms, mountain ash, weeping willow, the ailanthus or Tree of Heaven, and the tulip trees; there are hosts of others, so that the most over fastidious taste can find trees to suit.

When one looks upon a tree daily, it seems to

grow upon acquaintance—and loves one to notice the graceful outlines, the wealth of rich green foliage. Here on my father's farm is an old persimmon tree; the seed was brought from Missouri years ago, to-day it is a tree of some twenty feet or more, knotted and gnarled, but still bearing fruit, but woe be to the one who is tempted into tasting one of the rosy-looking persimmons before they are ripe. It is now "our old persimmon tree," and if it was missing, it would not seem like the same place.

The maple seems to be a favorite for planting about country homes, and in the cities too; it would be difficult to find a more desirable tree; in the autumn it is truly unsurpassed. I must not close without saying a word in favor of the oak, the King of the Forest; this tree is still beautiful when its branches are bare, more beautiful than any other tree.

"He plants cool shade and tender rain,
And seed and bud of days to be,
He plants the forest's heritage
The harvest of the coming age
The joy that unborn eyes shall see,
These things plants he who plants a tree."

ANNICE BODEY.

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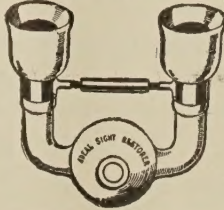


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When writing to advertisers, mention Vick's Magazine.

BELLADONA LILIES IN POTS.

The following very particular account of the treatment of *Amaryllis Belladonna* is from the *Journal of Horticulture*, in reply to an inquiry on the subject. Amateurs will find in this account an explanation of the bulbs not blooming the first summer after planting, when purchasing them in the fall.

The proper time to pot this species (*Amaryllis Belladonna*) is in June or July, when the bulbs commence root action before the flower stems are sent up. You appear to have given them the treatment usually accorded to *Hippeastrums*, which appear to have a growing season from February to September, while *Belladonna Lilies* commence growing in the early autumn after flowering is over and continue in growth until the spring, when the foliage dies down. As we have grown this splendid species to the admiration of others, the following outlines of procedure may not be unacceptable. The bulbs usually come to hand when at rest, generally early in September, then having flower buds. This is too late by a month or six weeks to do the plants justice, for they commence root action, as before stated, before the flower stems are sent up. The bulbs are placed singly in pots twice that of their diameter or a trifle more, in a compost of good fibrous, rather heavy or yellow loam, with one-fourth of leaf-mould or well-decayed manure, a sixth of sand, and a sprinkling of crushed bones and charcoal. Good drainage is very important. The soil is made firm under and around the bulbs, and this left at least half above the level of the soil. This being moderately moist no water is given, but the pots are stood on shelves in a greenhouse—one from which frost only is excluded—for the plants cannot have too much light. The plants may flower, but most of ours do not develop the scapes present when the bulbs are potted, either becoming blind or rotting. Growths will soon appear, then supply water—moderately at first, yet keeping the soil moist for the development of the flower scape and flowers, if any, and to sustain the growth. Water as required during the winter months, and when the foliage gives indications of dying down gradually withhold or lessen the supplies, and keep quite dry after the leaves die down. About August the plants will begin growing again, or give indications of so doing, when remove a little of the surface soil and supply fresh. As growth pushes, for very few bulbs flower in the season after first potting,

gradually supply water, and when in free growth afford it liberally, with occasional applications of liquid manure, but taking care not to make the soil sodden, proceeding exactly as in the previous season. The chief points are to afford plenty of light and air on all favorable occasions so as to secure a sturdy growth and its thorough maturation. In the late summer, or early in autumn, flowers may be expected on the well-developed bulbs. The bulbs are not potted oftener than once in three years, and then in June or July, always before either flower-buds or leaves appear. Offsets should be removed, potted singly—but well-grown bulbs do not produce many offsets. Six-inch pots suffice for the largest bulbs, five-inch pots answering for ordinary sized samples. However, pots twice the diameter, or rather more, of the bulbs is a safe rule to follow.

SCILLAS.

I have found such delight in the little blue *Scilla Sibirica* that I want to recommend it to others who want an early blooming bulb for the garden, terrace or lawn. The scilla comes up with the first breath of spring, and with its glossy dark green leaves the buds also appear and these in the greatest profusion. The flowers are small and delicate, but oh, so fragrant, and of the loveliest, daintiest blue you ever saw. They are not showy, no one could under any stress of enthusiasm call them so, but there are things not showy that we love and love none the less for their very absence of this quality.

The scilla is a low growing little beauty and as it comes so early the bed or border where it is placed may well be utilized for other things at a later period. This bulb seems to be just as hardy as a tulip, and more than this I cannot say, for there are few bulbs that can and do endure more than the tulip does. Both scillas and tulips live through a great degree of cold and heat for we have both extremes here in the Northwest. Mercury as low as 40° occasionally in winter, not often but sometimes, and then, again, up into the nineties, and even once our thermometer recorded 105°. So, both heat and cold are conditions which must be considered by the flower grower here, and both scillas and tulips do well out of doors. A mulch is a good thing in the winter here, and I think anywhere almost, for while bulbs will live without it, they produce larger and better flowers with it.

ROSE SEELYE MILLER.

Ipswich, S. D.

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REVIEW OF REVIEWS.

In the Christmas number of the *American Monthly Review of Reviews*, some of the most noteworthy or the famous paintings of the life of Christ by J. James Tissot are reproduced. Clifton Harby Levy writes on Tissot's life and method of painting, and Ernest Knauff contributes a criticism of the portraits from an artist's point of view. The collection is now on exhibition in New York and will be shown in several of the leading American cities before Mr. Tissot returns to France. It is beyond question the most important series of representations of Christ made in modern times.

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THE WIND.

SPRING.—It tangles curls of pretty girls,
And sends the dust in frolicsome
whirls,
The bold and boisterous wind.

SUMMER.—It soft tip-toes by the full-blown
rose,
And rocks the nestlings to repose,
The soft, seducing wind.

AUTUMN.—It snatches leaves from off the trees,
And takes your hat, but doesn't say
please,
The rude and rollicking wind.

WINTER.—It pierces clothes, and nips your
nose,
And goes through shoes, to find
your toes,
The bitter, biting wind.

DAME DURDEN.

* *

SOME REASONS WHY FRUIT DOES NOT SET.

There are four important reasons why fruit may fail to set:

1. The pollen may be insufficient in quantity. This applies particularly to the strawberry. Many of our cultivated varieties, the so-called pistillate sorts, produce only a small amount of pollen, not enough for complete fertilization (such as Bubach, Warfield, Crescent). A failure from this cause may be easily prevented by planting pollen-producing varieties (the so-called staminate sorts) along side the others.

2. Insects may be prevented from visiting the flowers during the receptive period. If bees are kept from fruit blossoms by netting or other artificial means, the amount of fruit set is little or none. It not infrequently happens that inclement weather prevents or hinders the flying of bees during the period when the flowers are receptive. A fruit tree, half of which was subjected to a continuous spray of water during the flowering period, produced no fruit upon the sprayed portion, but an abundance upon the other. A failure due to the above mentioned cause cannot well be prevented, but may be modified by having bees near at hand to utilize the short favorable periods which do occur.

3. In some varieties of fruits the flowers are self-fertile and refuse to take pollen even from another flower on the same plant. Fertilization can then take place only when the pollen comes from a separate seed. All our varieties of orchard and small fruits are reproduced by cuttings, grafts, buds, layers or other similar methods and not from seed, hence are merely one plant cut up into a great many parts. Therefore in self-sterile varieties (such as Bartlett pears, the Brighton, Merrimac and Wilder grapes) the pollen must be obtained from another variety. Isolated plants or large orchards of a single

variety may fail to set fruit from this cause. To prevent such failures mix the varieties. The quickest way to remedy cases which have reached maturity is to top graft another variety upon them in sufficient quantity. (The Seckel and Keifer pears and the Concord and Niagara grapes are self-fertile.)

4. An insufficient supply of bees will hinder the setting of fruit. While other insects may take part in the carrying of pollen, the fruit raiser must rely chiefly upon honey-bees. Experience shows that though hungry bees may fly two or three miles, hives should be within half a mile of the orchard or small fruit patch,—*Kansas Experiment Station, Manhattan, Kas.*

* *

WE CALL attention to the new advertisement under caption of "If You Will." S. M. BOWLES is a thoroughly reliable man. It will pay you well to answer the ad.

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The Golden Wedding edition will be ready about January 1st, 1899, and mailed as soon as possible thereafter to all who purchased goods of us last spring. It will be an extraordinary edition, brought out at great expense, to celebrate our Half Century of business,—sort of souvenir, with many illustrations of past and present. Something entirely new and a wonderful surprise for our friends.

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James Vicks Sons, Rochester, N. Y.

EXPORT OF INDIA-RUBBER FROM THE AMAZON REGION.

The latest report of Mr. Churchill, the British consul at Para, which is the chief port to which the shipping of the Amazon resorts, shows that the greater part of the great rubber production of the Amazon region is exported from Para. In 1896 the value of this export from Para was nearly three and one-half million sterling, of which Great Britain took over one and three-fourths million, nearly the whole of the remainder going to the United States. The quantity was 15,226 tons, the total export from the Amazon being 10,981 tons, the balance being shipped largely at Manaos, about one thousand miles up the river. The chief sources of production are along the great rivers and islands in the Amazon belonging to the State of Para, the valleys of the main tributaries of the Amazon, such as the Parus and Madeira, and the Amazon districts of Bolivia and Peru. Mr. Churchill gives a long account of this remarkable industry in the Amazon region, its history, the mode in which

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TREES FOR STREET PLANTING.

They have in the city of New York a Tree Planting Association. The following is a list of trees recommended by this society for street planting:

Norway maple, sugar maple, silver maple, American white elm, Scotch elm, pink oak, red oak, American white ash, American sweet chestnut, common horse chestnut, hardy catalpa, (*Catalpa speciosa*), tulip tree or tulip poplar (*Liriodendron tulipifera*), balsam poplar, Lombardy poplar, Carolina poplar or cottonwood, American linden (or Basswood), lime (or European linden), nettle tree (hackberry), oriental plane tree, sweet gum (or liquidambar), American plane tree (button ball or sycamore). If the ailanthus is used for planting, use only pistillate trees.

* *

If you have not entered the Sewing Machine contest, do so at once. See 2d cover page.

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WANTED.

Our Magazine files are short the issues of January, April, July, November and December of 1897. Also January 1898.

If any of our friends have one or more of the above issues and will kindly mail them to us, it will be a great favor. VICK PUBLISHING CO., Rochester, N. Y.

* *

RED RASPBERRIES.

The following note in regard to red raspberries is made by Frederic Cranefield, of the Wisconsin Experiment Station:

Cuthbert, Miller Red, Harris and Loudon were grown. The last leads by several places, both in productiveness and marketable value. Its color and size commend it, but it is scarcely as high in quality as the Cuthbert. Miller Red is certainly of good color, but is small and insipid. Harris is late, fairly productive and of good quality. Its dwarf habit might commend it to amateurs.

* *

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* *

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James Vicks Sons
Rochester, N. Y.

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